

**Division of
Building
Safety**

ELECTRICAL NEWS BRIEF

Volume 2, Issue 2

February 17, 2006

Equipotential Planes and Bonding of Equipotential Planes

2005 NEC Article 547 is the article that deals with livestock confinement buildings the nature of these building causes unique situations for electricity. The Idaho Electrical Board has been active in pursuing the issues that are involved with livestock. It was proposed to panel 19 to exempt “equine” from the requirement for Equipotential Planes. This proposal was turned down. The dialog that was generated by this proposal was enlightening. The following code reference was meant to only include the indoor areas of confinement, which have concrete floors, and metallic equipment that may become energized and which come in contact with livestock. The alley ways and grooming areas were not to be included.

547.10 Equipotential Planes and Bonding of Equipotential Planes

The installation and bonding of equipotential planes shall comply with 547.10(A) and 547.10(B). For the purposes of this section, the term livestock shall not include poultry.

(A) Where Required Equipotential planes shall be installed in all concrete floor confinement areas in livestock buildings, and in all outdoor confinement areas such as feedlots, containing metallic equipment that may become energized and is accessible to livestock. The equipotential plane shall encompass the area where the livestock stands while accessing metallic equipment that may become energized.

(B) Bonding Equipotential planes shall be bonded to the electrical grounding system. The bonding conductor shall be copper, insulated, covered or bare, and not smaller than 8 AWG. The means of bonding to wire mesh or conductive elements shall be by pressure connectors or clamps of brass, copper, copper alloy, or an equally substantial approved means. Slatted floors that are supported by structures that are a part of an equipotential plane shall not require bonding.

New language has been proposed by panel 19 that will clear this up in the 2008 NEC. At this time the proposal is not official but the Idaho Electrical Board felt strongly enough to endorse the language as the interpretation of the code. Equipotential Planes will be required in areas that have all three of the following present; confined livestock, concrete floors, and metallic equipment where they may become energized and the possibility of contact by livestock exists.